NORTH AMERICAN JOURNAL OF AQUACULTURE

VOLUME 61, NUMBER 1, JANUARY 1999

1 Bioenergetics Estimate of the Effects of Stocking Density on Hatchery Production of Smallmouth Bass Fingerlings
G. L. Robel and W. L. Fisher

8 Variation in Growth Rate within and among Stocks and Families of Striped Bass
L. C. Woods III, E. M. Hallerman, L. Douglass, and R. M. Harrell

13 Both n-6 and n-3 Fatty Acids Are Required for Maximal Growth of Juvenile Hybrid Tilapia
B.-S. Chou and S.-Y. Shiau

Communications

21 The Chemical Composition of Settleable Solid Fish Waste (Manure) from Commercial Rainbow Trout Farms in Ontario, Canada
S. J. Naylor, R. D. Moccia, and G. M. Durant

27 Transportation Influences on Inland Fall Chinook Salmon Egg Survival
M. E. Barnes, W. A. Sayler, and R. J. Cordes

34 Critical Stage in Developing Walleye Eggs
M. A. Latif, R. A. Bodaly, T. A. Johnston, and R. J. P. Fudge

38 Ploidy Level Determination in Genetically Manipulated Northern Pike Based on the Number of Active Nucleoli per Cell
D. Kucharczyk, P. Woznicki, M. J. Luczynski, M. Klinger, and M. Luczynski

43 Effect of Timing of Oil Film Removal and First Feeding on Swim Bladder Inflation Success among Intensively Cultured Striped Bass Larvae
B. R. Friedmann and K. M. Shutty

47 Weaning Success of Southern Flounder Juveniles: Effect of Changeover Period and Diet Type on Growth and Survival
H. V. Daniels and R. G. Hodson

51 Effects of Ration and Temperature on Growth of Age-0 Atlantic Sturgeon
J. L. Kelly and D. E. Arnold

58 Substitution of Plant Proteins or Meat and Bone Meal for Fish Meal in Diets of Nile Tilapia
Y. V. Wu, K. W. Tudor, P. B. Brown, and R. R. Rosati

64 Wading Bird Predation at Tropical Aquaculture Facilities in Central Florida
M. L. Avery, D. S. Eiselman, M. K. Young, J. S. Humphrey, and D. G. Decker

Technical Notes

70 Induced Spermiation in Wild Atlantic Sturgeons Held Captive Up to Six Years
J. W. Mohler and J. W. Fletcher

74 Evaluation of Two Sizes of Hybrid Striped Bass for Introduction into Small Ponds
J. W. Neal, J. A. Rice, and R. L. Noble

79 Comparative Production Characteristics of Sunshine Bass and Sunshine Bass × Striped Bass in Recirculating-Water Systems
J. R. Tomasso, C. J. Kempton, A. Gallman, and T. I. J. Smith

82 Preliminary Study on the Effect of Stocking Density on the Growth and Survival of the Yellow Snapper *Lutjanus argentiventris* Confined in Cages in a Tidal Pond
D. A. Guerrero-Tortolero, A. Muhlia-Melo, and J. Rodríguez-Romero

Book Reviews

85 Tropical Mariculture (*R. R. Stickney*)

87 **Guide for Authors**

VOLUME 61, NUMBER 2, APRIL 1999

91 Effects of High Rearing Densities and Loading Rates on the Growth and Stress Responses of Juvenile Rainbow Trout
L. S. Procarione, T. P. Barry, and J. A. Malison

97 Use of Sex Reversal in Striped Bass to Create an All-Male Population
J. R. Schutz and R. M. Harrell

107 Water Quality within Baitfish Spawning Mats during Egg Incubation in Commercial Ponds
N. Stone, E. Park, and H. Thomforde

115 Evaluation of Cottonseed Meal Supplementation of Inorganically Fertilized Florida Largemouth Bass Spawning Ponds
G. Kurten, L. Hall, and N. Thompson

Communications

126 Comparison of Mechanistic and Empirical Methods for Modeling Embryo and Alevin Development in Chinook Salmon
W. N. Beer

135 The Influence of Light Intensity on Growth of Larval Haddock
G. Downing and M. K. Litvak

141 Evaluation of Retention and Environmental Discharge of Nitrogen and Phosphorus by Farmed Turbot (*Scophthalmus maximus*)
R. Mallekh, T. Boujard, and J. P. Lagardère

146 Increased Postharvest Survival of Young White Bass and Sunshine Bass by Addition of Calcium and Sodium Chloride to Soft Water
J. M. Grizzle and A. C. Mauldin II

150 Clove Oil: An Alternative Anaesthetic for Aquaculture
P. W. Taylor and S. D. Roberts

156 Effects of Fertilization Method and of Selection for Body Weight and Species on Fertilization Efficiency of Channel Catfish Eggs with Blue or Channel Catfish Sperm
R. A. Dunham, A. N. Bart, and H. Kucuktas

Technical Notes

162 Practical Observations on the Use of Eggs from Electroshocked Females during Spawning of Inland Fall Chinook Salmon
M. E. Barnes, J. P. Lott, W. A. Sayler, and R. J. Cordes

167 Growth and Survival of Juvenile Robust Redhorse *Moxostoma robustum* Fed Three Different Commercial Feeds
D. L. Higginbotham and C. A. Jennings

172 A Spawning Cage for Eliminating Predation on Larvae of the Killifish *Aphanius dispar*
V. Frenkel and M. Goren

VOLUME 61, NUMBER 3, JULY 1999

175 Evaluation of Chronic Gas Supersaturation on Growth, Morbidity, and Mortality of Fingerling Rainbow Trout Infected with *Myxobolus cerebralis*
G. J. Schisler, E. P. Bergersen, and P. G. Walker

184 Growth of Juvenile Chinese Sturgeon *Acipenser sinensis* Fed Live and Formulated Diets
H. Xiao, Y. Cui, S. S. O. Hung, X. Zhu, Z. Zou, and S. Xie

189 Growth and Survivorship of Larval Zebrafish *Danio rerio* on Processed Diets
E. M. Goolish, K. Okutake, and S. Lesure

199 Hormonal Sex Inversion in Striped Bass and White Bass × Striped Bass Hybrids
B. Gomelsky, N. B. Cherfas, A. Gissis, and G. Hulata

206 Ineffectiveness of Steroid Immersion Treatments for Sex Reversal of Brook Trout
P. F. Galbreath and S. D. Stocks

213 Changes in Eggs of Brown Trout, Rainbow Trout, and Grayling during Short-Term Storage
F. Lahnsteiner and T. Weismann

220 Effects of Ram-Air Ventilation during Transportation on Water Quality and Physiology of Fingerling Walleyes
J. A. Forsberg, R. C. Summerfelt, and B. A. Barton

230 Evaluation of a Nondestructive Method for Determining Body Composition of White River Crayfish *Procambarus acutus*
H. Turker and A. G. Eversole

Communications

235 Role of Stocking Sequence on Survival of Fingerling Channel Catfish Cultured in Mixed-Size Populations
P. Unprasert, J. B. Taylor, and H. R. Robinette

239 Green-Water Rearing and Delayed Weaning Improve Growth and Survival of Summer Flounder
D. A. Bengtson, L. Lydon, and J. D. Ainley

243 Consumption Rates of Summer Flounder Larvae on Rotifer and Brine Shrimp Prey during Larval Rearing
D. A. Bengtson, T. R. Gleason, and M. A. Hossain

246 Evaluation of Implantation Procedures for PIT-Tagging Juvenile Nile Tilapia
E. Baras, L. Westerloppe, C. Mélard, J.-C. Philippart, and V. Bénech

252 Bacterial Populations during Inland Fall Chinook Salmon Egg Culture in Vertical-Flow Tray Incubators
M. E. Barnes, A. C. Gabel, and R. J. Cordes

258 Cryopreservation of Muskellunge and Yellow Perch Semen
J. Glogowski, A. Ciereszko, and K. Dabrowski

Technical Notes

263 Effects of Increasing Water Hardness on Egg Diameter and Hatch Rates of Striped Bass Eggs
S. Spade and B. Bristow

Book Reviews

266 Health Maintenance and Principal Microbial Diseases of Cultured Fishes (*R. R. Stickney*)

VOLUME 61, NUMBER 4, OCTOBER 1999

267 Temperature Effects on Eggs and Yolk Sac Larvae of the Summer Flounder at Different Salinities
W. O. Watanabe, S. C. Ellis, E. P. Ellis, and M. W. Feeley

278 Cold Tolerance and Fatty Acid Composition of Striped Bass, White Bass, and Their Hybrids
A. M. Kelly and C. C. Kohler

286 Effect of Dietary Carbohydrate on Growth, Glucose Tolerance, and Liver Composition of Juvenile Striped Bass
B. C. Small and J. H. Soares, Jr.

293 Growth, Carcass Traits, and Oxygen Tolerance of Diploid and Triploid Catfish Hybrids
C. G. Lilyestrom, W. R. Wolters, D. Bury, M. Rezk, and R. A. Dunham

304 Effects of Selected Water Quality Variables on the Persistence of Tannic Acid and Related Compounds under Simulated Aquaculture Conditions
G. Zhao, A. A. Jaiteh, W. Wang, and S. E. Stevens, Jr.

310 Application of the Relative Weight Index to Juvenile Walleyes
M. K. Flammang, J. A. Olson, and D. W. Willis

Communications

315 Rapid Clearance of D-Ala^6,Pro^{9}NEt Mammalian Gonadotropin Releasing Hormone from Chinook Salmon Plasma
C. H. Slater, C. B. Schreck, and S. A. Sower

319 Use of Erythrocyte Measurements to Identify Triploid Saugeyes
M. A. R. Garcia-Abiado, K. Dabrowski, J. E. Christensen, S. Czesny, and P. Bajer

326 Cage Culturing the Endangered Bonytail
P. A. Sowka and P. E. Brunkow

331 Growth of Juvenile Lake Sturgeon Reared in Tanks at Three Densities
S. Fajfer, L. Meyers, G. Willman, T. Carpenter, and M. J. Hansen

336 Competitive Feeding Interactions between Small and Large Channel Catfish Cultured in Mixed-Size Populations
P. Unprasert, J. B. Taylor, and H. R. Robinette

340 Distribution and Relative Impact of Avian Predators at Aquaculture Facilities in the Northeastern United States
J. F. Glahn, E. S. Rasmussen, T. Tomsa, and K. J. Preusser

349 Impact of Great Blue Heron Predation at Trout-Rearing Facilities in the Northeastern United States
J. F. Glahn, T. Tomsa, and K. J. Preusser

Technical Notes

355 Effects of Varying Voltage and Pulse Pattern during Electrical Immobilization of Adult Chum Salmon on Egg Survival to the Eyed Egg Stage
A. H. Tesch, D. Aro, G. Clark, D. Kucipeck, and J. D. Mahan

359 A Submerged Cage Designed for Aquatic Research
T. O. Brenden, B. R. Murphy, S. Manos, and C. S. Vandergoot

363 **Referee Acknowledgments**

365 **Author Index to Volume 61**

i **Table of Contents, Volume 61**